



**Increment 23&24
CRR-
ACOUSTICS**

Medical Operations

Presenter

Kenneth Ballard

Date

2/4/10

**Acoustics
Critical Readiness Review**

Kenny Ballard

**Increment 23-24
February 4, 2010**



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Hardware Status

Acoustic Dosimeters	Nominal Use
Sound Level Meter	Nominal Use
Bose Headphones	Nominal Use
Earplugs	Nominal Use



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Acoustic Dosimeters

- Capable of storing data internally and downloaded later via the Acoustic Dosimeter Data Receiver





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Acoustic Dosimeters

- **Operations:**
 - Once/2 months/crew member
 - Day 1 - Crew-worn measurements: daytime and sleep (total 24-hours for all 3 crewmembers)
 - Day 2 - Static deploy measurements (minimum 12 hours in 3 locations)
- For the static deployment, a reference picture is needed of each dosimeter to get an idea of where the microphone is deployed for data analysis. This has been added to Annex 3.
- Console support is not necessary; however, a flight-like unit is available at my desk to support any console operations, BME training, or curiosity.



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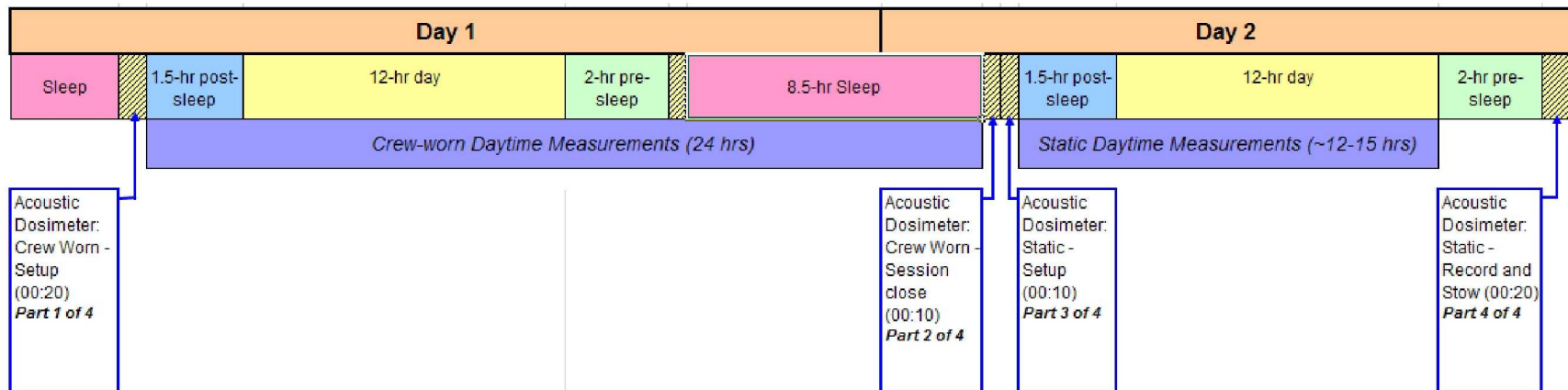
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Acoustic Dosimeter Timeline





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Acoustic Dosimeter – Changes

- AD ops are monthly to accommodate 6 person crew with static deploy once/2months
- No more night time record and setup. There will only be 2 sessions, a crew worn and static deploy.
- 4 total activities
 - Activity 1 – AD Crew Worn Setup
 - Activity 2 – AD Crew Worn Session Close
 - Activity 3 – AD Static Setup
 - Activity 4 – AD Static Session Close, Data Xfer and Stow
- Acoustic Dosimeter Data Receiver will be used to transfer data from the AD to the SSC.
- The data transfer will be done before pre sleep



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Sound Level Meter

- **Operations:**
 - Once/2 months
 - Each survey 120 minutes
 - Survey locations alternate each session
- If requested by BME, Engineering support can be provided in the MER for each SLM activity
- Data is downloaded to MEC and brought down to the ground for distribution.
- T61p certification is in work



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Bose Headphones



- Old headsets will remain on board for general crew use and for IP Phones
- New headphones will be reserved for O-OHA operations
- There is no shelf-life or expiration date associated with the headphones
- Old ear pads are not compatible with new headphones, replacement ear pads for the new Bose Headphones flew on 17A
- 9 Bose Headphones are currently on-orbit



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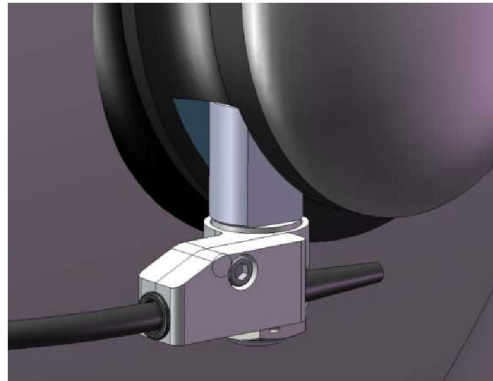
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Bose Headphones Integrated Cable



- 7 Flew on ULF3
- Phase out the old ANR Headsets
- 5 main components
 - Battery simulator cable
 - Headphone Cover
 - Microphone Boom assembly and Audio Jack
 - PTT Box
 - SSC Interface Connections
- Microphone Boom and cables may be detached.



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Bose Headphones Integrated Cable (cont'd)

- **3 BHIC's were installed at ULF-3 bench review and are deployed**
- **Install procedure is on uplink shelf**
- **Currently stowed in Hearing Protection Hardware Bags at LAB1O5_G2**



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On-Orbit Hearing Assessment

- **Operations:**
 - Once before FD14 as baseline
 - Once every 45 days thereafter
 - Performed on each crewmember
- Earplugs are now being delivered in either the IMAK or any RTH Bag.
- O-OHA test performed on the MEC. Data is brought down to the ground and distributed.
- Software is being certified for T61p use.